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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,729	06/23/2006	Koichiro Tanaka	0756-7709	6076

31780 7590 10/30/2008

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EXAMINER	
EVERHART, CARIDAD	
ART UNIT	PAPER NUMBER
2895	

MAIL DATE	DELIVERY MODE
10/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,729	TANAKA ET AL.	
	Examiner	Art Unit	
	Caridad M. Everhart	2895	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,8-10,13-19,28 and 32-36* is/are rejected.

7)☒ Claim(s) *3,4,6,7,11,12,20-27 and 29-31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7-17-2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's arguments with respect to claims 1-2, 5, 8-10, 13-19, 28, 32-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-2, 5, 8-10, 13-19, 28, 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maegawa et al (US 2004/0087118A1)..

Maegawa et al discloses the formation of a junction by implantation and activation by phonon excitation in the substrate(paragraphs 0008 and 0009).
Maegawa et al further disclose ion implantation and activation and laser activation by phonon absorption without creating crystal defects(paragraphs 0006, 0007, and 0008). The light is at a wavelength at which multiphoton absorption occurs for silicon (paragraph 0009), . An added advantage of the method is that activating occurs without thermal diffusion(paragraph 0012). A MOS transistor is formed(paragraph 0037). An oxide is deposited, a polysilcon gate is patterneed(paragraph 0038), a metal silicide is formed on the gate, ion implantation and activation is carried out, and a silicide formed on the source and gate(paragreaphs 0039, 0043). An insulation layer is formed an aluminum metallization is formed(paragraphs 0040 and 0046).

Maegawa et al is silent with respect to a fundament al wavelength and the shape of the beam.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the disclosure made by Maegawa et al encompasses a fundamental wavelength because Maegawa et al disclose that the laser light is of a wavelength at which silicon undergoes multiphoton absorption(paragraph 0009). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the recited beam shape because the beam shape is a variable of the art which one of ordinary skill can determine and choose the optical devices for the process.

Claims 14,16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumitsu et al (US 2006/0144828A1).

Fukumitsu et al discloses forming a modified region by mulltiphoton absorption in a semiconductor (paragraphs 0007, 0041, and 0064). There is melting and change in the crystal structure in the melted portions(paragraph 0064). Either the laser beam or the stage holding the substrate can be moved(paragraphs 0009 and 0110). Fukumitsu et al further discloses that the pulse width is in the femtosecond range(paragraph 0087) , that a fundamental wave of a laser such as a NdYAG laser is used(paragraph 0047), and that the power is within the recited range(paragraphs 0036 and 0092). Fukumitsu et al further discloses that in the processing of a semiconductor substrate using multiphoton laser, the condenser is made up of a plurality of lenses and is cylindrical(paragraphs 0087 and 0092). The beam shape can be chosen as desired including linear(pargraph 0067).

Fukumitsu et al discloses a process; however it would have been obvious to one o f ordinary skill at the time of the invention that the apparatus for carrying out the process is implied in the disclosure.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumitsu et al as applied to claim 14 above, and further in view of Kahlert et al (US 2002/0041444 A1).

Fukumitsu et al is silent with respect to the cylindrical lenses.

Kahlert et al discloses using two cylindrical lenses in the condenser in the optical path of the laser beam(paragraph 0043) in order to obtain a homogeneous beam.

It would have been obvious to one of ordinary skill in the art at the time of the disclosure to have used the lens taught by Kahlert et al in the apparatus taught by Fukumitsu et al in order to obtain the homogenous beam taught by Kahlert et al.

Allowable Subject Matter

Claims 3, 4, 6, 7, 11, 12, and 20-27, 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Richards can be reached on 571-272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Caridad Everhart/
Primary Examiner
AU 2895

10-27-2008